

REMARKS

Claims 12-18 and 22-28 are all the claims pending in the application. By this amendment, new claims 22 to 28 have been added, and dependent claims 19-21 have been deleted.

Claims 12, 17, 22, and 27 are independent claims.

Objection to the Title

The Examiner has objected to the title of the invention. In response, Applicant has amended the title to “BATTERY HAVING COVER MEMBER IN BATTERY CASE” and respectfully requests the Examiner to withdraw this objection.

Claim Rejection Under 35 U.S.C. §112

Claims 12-21 are rejected under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner asserts that the recitation “flexible” is indefinite. While Applicant disagrees with the Examiner, as a path of least resistance, Applicant has amended claims 12 and 17 to removed the recitations “flexible.” Therefore, this rejection is believed to be moot, and Applicant respectfully requests the Examiner to withdraw this rejection.

Claim Rejections Under 35 U.S.C. § 103

Claims 12-15 and 17-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hanafusa et al. (US 2001/0051298) in view of Terahara et al. (US 6,379,846).

Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hanafusa view of Terahara, and further in view of Lake.

Independent Claim 12

Applicant has amended independent claims 12 to recite “a sheet of a laminate comprising an aluminum foil and a resin layer.” This change is supported in the original specification, which states: “the aluminum laminated sheets 21 and 22, which are flexible, are obtained by laminating the following three layers: a base film layer made of nylon resin or the like; a metal layer having barrier properties made of aluminum foil; and a sealant layer made of thermoplastic resin,”¹ and “[a]s the aluminum laminated sheets 21 and 22 employed for the battery case 2, a flexible sheet obtained by laminating a base film layer made of nylon resin or the like, a barrier layer made of aluminum foil and a sealant layer made of polypropylene or the like was employed.”²

Amended claim 12 also recites that “a cover member is provided between said power generating element and said battery case.” This is supported by the exemplary embodiment shown in FIGS. 1 and 2, in which it is apparent that each of the cover members 51, 52 are provided between the power generating element 1 and the battery case 21, 22 and from the explanation of the battery manufacturing process.³

Amended claim 12 also recites that a non-coated portion is exposed on a surface of a power generating element. This is supported in the original specification by the exemplary embodiment in which a non-coated portion 1a is provided.⁴

¹ See specification at page 2 lines 3 to 7.

² See specification at page 12 lines 6 to 10.

³ See specification at page 12, line 18, to page 13, line 12.

⁴ See Specification at FIG. 1 & page 3, lines 1 to 3, page 4, lines 24 to 30, and page 11, lines 14 to 20.

The recitation that the cover member is “obtained by superimposing two covers on each other such that the two covers face each other” has been moved from independent claim 12 to dependent claim 16.

Hanfusa and Terahara

Applicant respectfully submits that there is no reasonable combination of Hanafusa and Terahara that would meet the battery of amended claim 12.

The Examiner asserts that the metallic foils 69, 70 shown Fig. 37 of the Hanafusa’s correspond to the recited “sheet” of a battery case and that Hanafusa’s resins 6, 8 correspond to the recited “cover member.” However, Hanafusa merely discloses that the metallic foil and the resin *together* constitute an external sheet 11 or 12.⁵

FIG. 37 of Hanafusa shows a configuration of an external sheet in which a resin 4 is removed.⁶ Thus, FIG. 37 merely shows an another example of a laminated structure of *an external sheet*, and does not disclose a configuration including *both a battery case and a cover member*, in which the cover member is provided between a sheet of a battery case and a power generating element, separately from a resin layer that is a part of a laminated structure of the battery case. Thus, one of ordinary skill would not have arrived at the battery of claim 12 because Hanafusa does not suggest the existence of any structure that could corresponds to the recited “cover member,” which is provided between a sheet and a power generating element.

⁵ See Hanafusa at paragraphs [0006] & [0011].

⁶ See Hanafusa at paragraph [0226].

It is also the Examiner's position that "disposing a non-coated portion on a polar plate for the purpose of weld a lead for emergence of current is an ordinary skill" would have been obvious.⁷ The Examiner asserts that "The non-coated portion of the battery of HANAFUSA et al. in view of TERAHARA et al. is covered with cover member because the cover member encompasses the entire power generating element."⁸

However, neither Hanfusa nor Terahara discloses anything regarding a position of the non-coated portion of the power generating element, let alone that the non-coated portion *is exposed on a surface of the power generating element*. As long as a non-coated portion is not exposed on a surface of the power generating element, it is not possible to satisfy the recitation of claim 12 that "the exposed part of said non-coated portion is covered with said cover member". Because the recited "exposed part of said non-coated portion is covered with said cover member," there is the advantage of preventing damage to a sheet of the battery case caused by the non-coated portion disposed on a surface of a power generating element."

Thus, neither Hanfusa nor Terahara describes the position of a non-coated portion of a power generating element, and neither of these references discloses that a cover member is provided between a sheet of a battery case and a power generating element.

Thus, Applicant respectfully requests the Examiner to withdraw the rejection of independent claim 12.

⁷ See Office Action at page 5, lines 1 to 8.

⁸ See Office Action at page 5, lines 8 to 11.

Hatazawa

Moreover, Hatazawa, which was cited in the first Office Action, also does not make up for these deficiencies. Hatazawa disclose anything about existence of a non-coated portion other than one to which the negative-electrode-terminal 3 and the positive-electrode-terminal 4 are connected, and as such there is no description that suggests the existence of a non-coated portion on a surface of the battery element. Thus, Hatazawa does not have the configuration in which “at least part of said non-coated portion is exposed on a surface of said power generating element, and the exposed part of said non-coated portion is covered with said cover member.”

Specifically, Hatazawa discloses that a negative-electrode terminal 3 and a positive-electrode-terminal 4 are connected to a non-coated portion.² FIGS. 3, 5 and 7 illustrate that the negative-electrode-terminal 3 and the positive-electrode-terminal 4 are protruded from an inside of a battery element. Thus, the non-coated portion, to which the negative-electrode-terminal 3 and the positive-electrode-terminal 4 were connected, exist in *an inside of the battery element*, and are not exposed on a surface of the battery element.

Claim 17

Applicant has amended independent claim 17 in a manner similar to independent claim 12. However, independent claim 17 recites that the battery includes *two cover members*.

Applicant respectfully requests the Examiner to withdraw the rejection of independent claim 17 at least for the reasons discussed above with respect to independent claim 12.

² Hatazawa at col. 7, lines 10 to 13, and col. 8, lines 21 to 24.

Dependent Claims 12-15 and 17-21

Applicant respectfully requests the Examiner to withdraw the rejection of dependent claims 12-15 and 17-21 at least because of their dependency from claim 12 or claim 17.

Dependent Claim 16

Applicant respectfully requests the Examiner to withdraw the rejection of dependent claim 16 at least because its dependency from claim 12 and because Lake, which the Examiner cites as showing a superimposed portions of covers that face superimposed portions of a flexible sheet, does not cure the deficiencies in the combination of Hanfusa nor Terahara discussed above.

New Claims

Finally, new claims 22-28 have been added to provide additional claimed subject matter.

Claims 22 and 27

Unlike independent claims 12 and 17, independent claims 22 and 27 recite “said battery case and said cover member are “discrete parts.” This amendment is supported at least by the exemplary embodiment shown in FIG. 1 of the original specification and the disclosure of the battery manufacturing process.¹⁰

Applicant respectfully submits that claims 22 and 27 are patentable at least because, as discussed above with respect to claim 12, neither Hanfusa nor Terahara describes the position of a non-coated portion of a power generating element, and neither of these references discloses

¹⁰ See original specification at page 12, line 18, to page 13, line 12.

that a discrete part of a cover member is provided between a sheet of another discrete part, i.e., a battery case, and a power generating element

Dependent Claims

New dependent claims 23-26, 28 and 29 correspond to claims 13-16, 18, and 21, respectively. Applicant respectfully submits that these claims are patentable at least because of their dependency from claims 22 and 27.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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